

Method and Apparatus for Emulating Multiple Timers In a Virtual Computer System

5 ABSTRACT OF THE DISCLOSURE

A virtual computer system includes multiple timer emulators for emulating multiple virtual timers in a virtual machine (VM). A time coordinator keeps track of an apparent time that is provided to the multiple timer emulators for presentation to the VM
10 through the virtual timers. In particular, the time coordinator ensures that timer events generated by the multiple timer emulators are presented to the VM in an appropriate sequence and with substantially appropriate relative apparent times. Also, when guest software reads a count from a virtual timer, the time coordinator ensures that the
15 apparent time presented to the guest software is substantially consistent with the apparent times represented by preceding and succeeding timer events. When the apparent time falls behind the real time of the physical computer system, such as when the VM does not execute for a period of time, the time coordinator speeds up the apparent time until it catches up to the real time.